IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

VOLTERRA SEMICONDUCTOR LLC,	)	
	)	
	)	
Plaintiffs,	)	
	)	
v.	)	C.A. No. _____
	)	
MONOLITHIC POWER SYSTEMS, INC.,	)	**JURY TRIAL DEMANDED**
	)	
Defendant.	)	

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Volterra Semiconductor LLC ("Volterra" or "Plaintiff") brings this action for patent infringement against Defendant Monolithic Power Systems, Inc. ("Monolithic" or "Defendant") as follows:

NATURE OF THE ACTION

1. This is a civil action for patent infringement under the patent laws of the United States, 35 U.S.C. § 1, *et seq*.

2. Defendant has infringed and continues to infringe, has contributed to and continues to contribute to the infringement of, and has induced and continues to induce the infringement of one or more claims of U.S. Patent Nos. 6,362,986 ("the '986 patent"); 7,525,408 ("the '408 patent"); and 7,772,955 ("the '955 patent") (collectively, the "Asserted Patents") at least by making, using, selling, offering for sale, and importing into the United States DC-to-DC power converters that infringe one or more claims of each of the Asserted Patents.

3. Volterra is the legal owner by assignment of the Asserted Patents, which were duly and legally issued by the United States Patent and Trademark Office ("USPTO"). Volterra seeks monetary damages and injunctive relief to address ongoing infringement of its valuable patent portfolio.

THE PARTIES

4. Plaintiff Volterra Semiconductor LLC ("Volterra") is a corporation organized and existing under the laws of the State of Delaware and having its principal place of business at 160 Rio Robles, San Jose, California, 95134. Volterra Semiconductor LLC is the successor to Volterra Semiconductor Corporation, a corporation previously existing and incorporated under the laws of the State of Delaware. In October, 2013, Volterra Semiconductor Corporation was acquired by Maxim Integrated Products, Inc. ("Maxim Integrated Products"). On June 27, 2014, Volterra Semiconductor Corporation was converted to a limited liability corporation, Volterra Semiconductor, LLC, pursuant to Section 18-214 of the Delaware Limited Liability Corporation Act. 6 Del. C. § 18-214. Volterra Semiconductor LLC remains a wholly owned subsidiary of Maxim Integrated Products. Maxim Integrated Products, Inc. is a corporation organized under the laws of the State of Delaware.

5. Upon information and belief, Defendant Monolithic Power Systems, Inc. is a Delaware corporation with its principal place of business at 79 Great Oaks Blvd, San Jose, California 95119.

6. Monolithic, either itself and/or through the activities of its subsidiaries, makes, uses, sells, offers for sale, and/or imports throughout the United States, including within this District, products, such as DC-to-DC power converters, that infringe the Asserted Patents.

JURISDICTION AND VENUE

7. This is a civil action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq*.

8. This Court has subject matter jurisdiction over the matters asserted herein under 28 U.S.C. §§ 1331 and 1338(a).

9. Monolithic is subject to this Court's personal jurisdiction. Monolithic is incorporated in this District.

10. The Court therefore has both general and specific personal jurisdiction over Monolithic.

11. Venue is proper in this District pursuant to 28 U.S.C. § 1400(b) at least because, as discussed above, Monolithic is incorporated in this District and hence resides in this District.

FACTUAL BACKGROUND

12. In October, 2013, Volterra Semiconductor Corporation was acquired by Maxim Integrated Products, and subsequently re-organized as Volterra Semiconductor LLC, a wholly owned subsidiary of Maxim Integrated Products.

13. Volterra designed, developed, and marketed leading edge silicon solutions for low-voltage power delivery. The company's product portfolio included advanced switching regulators for the computer, datacom, storage, and portable markets. Volterra focused on creating products with high intellectual property content that match specific customer needs. The company has been an industry leader in high-current, high-performance, and high-density power management solutions and has developed highly integrated solutions primarily for the enterprise, cloud computing, communications, and networking markets. Volterra's portfolio of highly integrated products enables better performance, smaller form factors, enhanced scalability, improved system management, and lower total cost of ownership.

THE ASSERTED PATENTS

14. The '986 patent, issued on March 22, 2001, is entitled "Voltage converter with coupled inductive windings, and associated methods." Aaron M. Schultz and Charles R. Sullivan are the named inventors. Volterra is the original and current owner by assignment of the '986 patent. A true and correct copy of the '986 patent is attached hereto as Exhibit A.

15. The ’408 patent, issued on April 28, 2009, is entitled “Method for making magnetic components with N-phase coupling, and related inductor structures.” Jieli Li, Charles R. Sullivan, and Angel Gentchev are the named inventors. Volterra is the original and current owner by assignment of the ’408 patent. A true and correct copy of the ’408 patent is attached hereto as Exhibit B.

16. The ’955 patent, issued on August 10, 2010, is entitled “Method for making magnetic components with N-phase coupling, and related inductor structures.” Jieli Li, Charles R. Sullivan, and Angel Gentchev are the named inventors. Volterra is the original and current owner by assignment of the ’955 patent. A true and correct copy of the ’955 patent is attached hereto as Exhibit C.

ACTS GIVING RISE TO THIS ACTION

17. The allegations provided below are exemplary and without prejudice to Volterra’s infringement contentions. In providing these allegations, Volterra does not convey or imply any particular claim constructions or the precise scope of the claims. Volterra’s claim construction contentions regarding the meaning and scope of the claim terms will be provided under the Court’s scheduling order and local rules.

18. The infringing products include, but are not limited to, Monolithic DC-to-DC power converters, including converters manufactured by Monolithic, designed by Monolithic, or designed with the assistance of Monolithic. One non-exhaustive example of the Accused Products includes the 48V-1V Power Solution for CPU, SoC or ASIC Controller that Monolithic demonstrated at the 2019 IEEE Applied Power Electronics Conference and Exposition (“APEC 2019”) in Anaheim, CA.

19. As detailed below, each element of at least one claim of each of the Asserted Patents is literally present in the Accused Products, or is literally practiced by the Accused Products. To

the extent that any element is not literally present or practiced, each such element is present or practiced under the doctrine of equivalents.

20. Monolithic has made extensive use of Volterra's patented technologies, including the technology described and claimed in the Asserted Patents. Volterra has no choice but to defend its proprietary and patented technology. Volterra thus requests that this Court award it damages sufficient to compensate for Monolithic's infringement of the Asserted Patents, find this case exceptional and award Volterra its attorneys' fees and costs, and grant an injunction against Monolithic to prevent ongoing infringement of the Asserted Patents.

COUNT I: INFRINGEMENT OF U.S. PATENT NO. 6,362,986

21. Volterra incorporates by reference and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

22. On information and belief, Monolithic has directly infringed, continues to infringe, and/or has induced or contributed to the infringement of at least claims 1 and 17 of the '986 patent by making, using, selling, offering for sale, and/or importing into the United States, without authority or license, the Accused Products in violation of 35 U.S.C. § 271(a). For example, Monolithic directly infringed the '986 patent when it demonstrated its 48V-1V Power Solution for CPU, SoC or ASIC Controller at APEC 2019.

23. By at least December 9, 2019, Volterra disclosed, at least by filing this Complaint, the existence of the '986 patent and identified at least some of Monolithic's and others' activities that infringe the '986 patent. Thus, based on this disclosure, Monolithic had knowledge of the '986 patent and that its activities infringe the '986 patent since at least December 9, 2019. Based on Volterra's disclosures, Monolithic has also known or should have known since at least December 9, 2019 that its customers, distributors, suppliers, and other purchasers of the Accused Products

are infringing the ’986 patent at least because Monolithic has known that it is infringing the ’986 patent.

24. On information and belief, Monolithic also actively, knowingly, and intentionally induces infringement of one or more claims of the ’986 patent under 35 U.S.C. § 271(b) by actively encouraging others to import into the United States, and/or make, use, sell, and/or offer to sell in the United States, the Accused Products or products containing the infringing components of the Accused Products. For example, Monolithic actively promotes the sale, use, and importation of the Accused Products in marketing materials and videos made available on its YouTube channel (e.g., www.youtube.com/channel/UCqOx8jWRKEq4TpfcjCz0Isw) as well as at trade shows (e.g., APEC 2019) and through its sales and distribution channels that encourage infringing uses, sales, offers to sell, and importation of the Accused Products. As another example, on information and belief, Monolithic representatives travel to customer sites for sales and support activity that includes working with customers and suppliers to facilitate these customers’ infringing testing, marketing, importation, and sales activity. On information and belief, Monolithic supplies its customers, distributors, and suppliers with the Accused Products so that they may be used, sold, offered for sale, and/or imported into the United States by those customers and suppliers.

25. On information and belief, Monolithic further contributes to the infringement of one or more claims of the ’986 patent under 35 U.S.C. § 271(c) by offering to sell, selling, and/or importing into the United States a component of the Accused Products, or a material or apparatus for use in practicing a process claimed in the ’986 patent, that constitutes a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement of the ’986 patent, and is not a staple article or commodity of commerce suitable for substantial noninfringing use. For example, on information and belief, Monolithic’ contributes to

its customers' infringement of the '986 patent when it manufactures, designs, or assists in the design of a material part of the Accused Products.

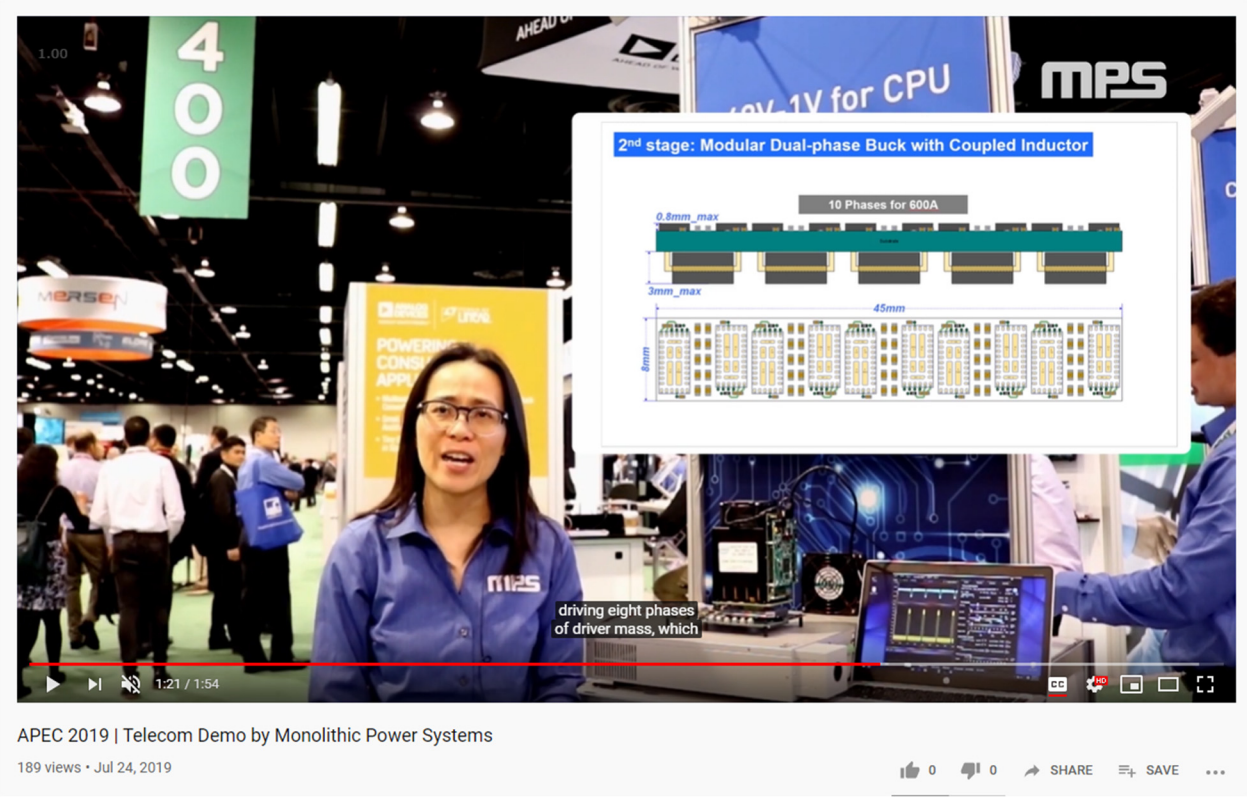
26. The Accused Products meet all the limitations of at least claims 1 and 17 of the '986 patent.

27. Claim 1 of the '986 patent recites: A DC-to-DC converter for providing an output voltage from an input voltage, comprising first and second inductive windings and a magnetic core cooperatively forming a magnetizing inductance, a first voltage across the first winding being switched at about 180 degrees out of phase with a second voltage across the second winding, to regulate magnitude of the output voltage, the first and second voltages being formed from one or a combination of the input and output voltages, each of the first and second windings having a leakage inductance and being coupled to the magnetic core wherein magnetizing inductance is at least three times greater than the leakage inductance of either winding, the first winding being wound about the core in a first orientation, the second winding being wound about the core in the first orientation.

28. The Accused Products are DC-to-DC converters for providing an output voltage from an input voltage. For example, at APEC 2019, Monolithic demonstrated a power converter that converts a 48 volt DC input voltage to a 1 volt DC output voltage.

(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

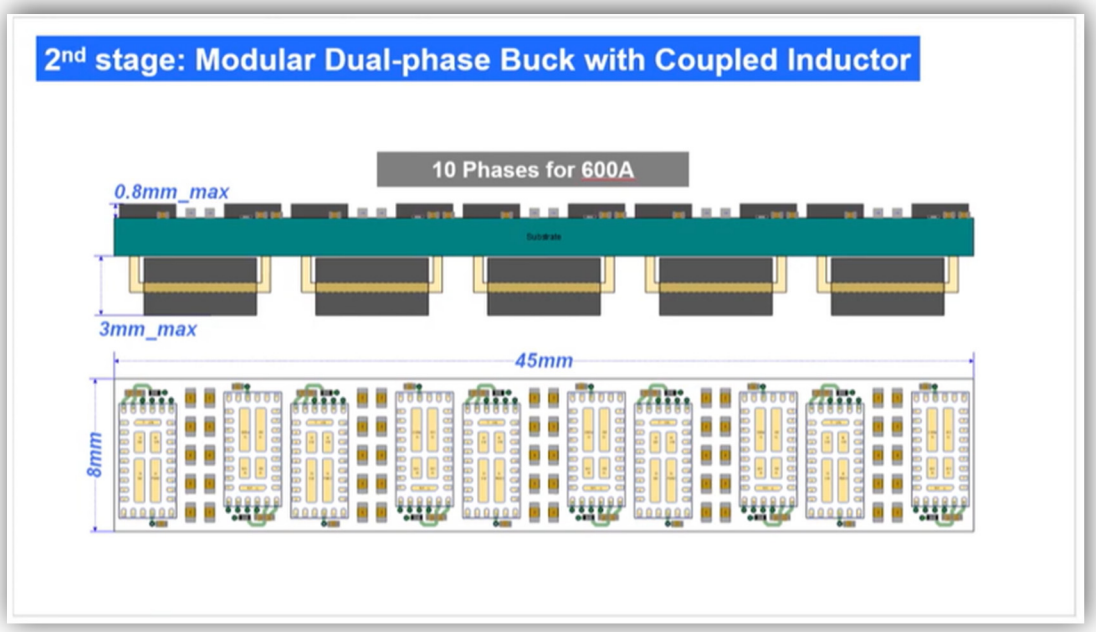
29. The Accused Products include first and second inductive windings and a magnetic core cooperatively forming a magnetizing inductance. For example, the Accused Products include coupled inductors, and each coupled inductor includes first and second inductive windings and a magnetic core. The first and second inductive windings and magnetic core cooperatively form a magnetizing inductance.



(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

30. The Accused Products include a first voltage across the first winding being switched at about 180 degrees out of phase with a second voltage across the second winding, to regulate magnitude of the output voltage, the first and second voltages being formed from one or a combination of the input and output voltages. For example, the Accused Products include a pair of control circuits for each coupled inductor. On information and belief, the first control circuit is connected to the first winding and the second control circuit is connected to the second winding. The layout demonstrated at APEC 2019 shows the first control circuit physically oriented 180 degrees with respect to the second control circuit. On information and belief, the physical orientation of the control circuits is indicative of the first voltage across the first winding being switched at about 180 degrees out of phase with the second voltage across the second winding. On information and belief, the Accused Products switch the first voltage and second voltage to

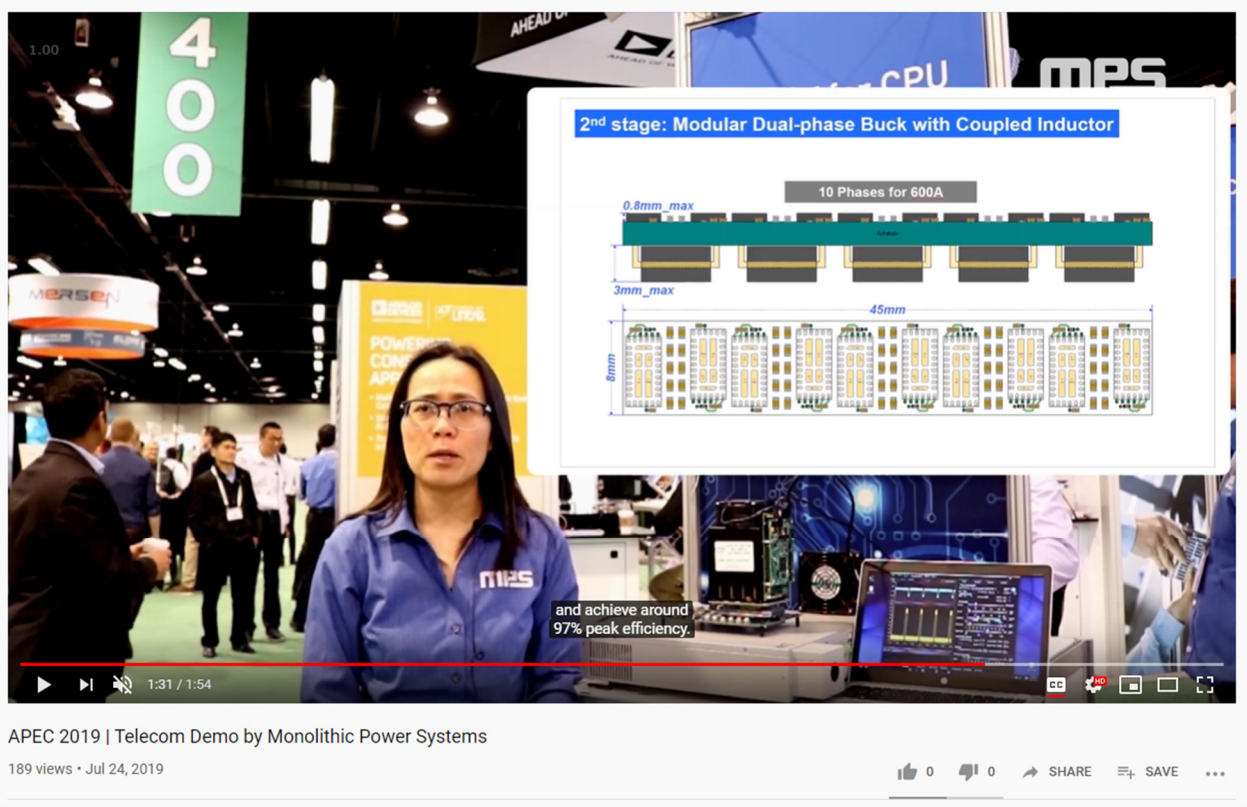
regulate the magnitude of the output voltage, and the first and second voltages are formed from one or a combination of the input voltage and the output voltage.



(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

(https://www.youtube.com/watch?v=WIC2SDWSins).

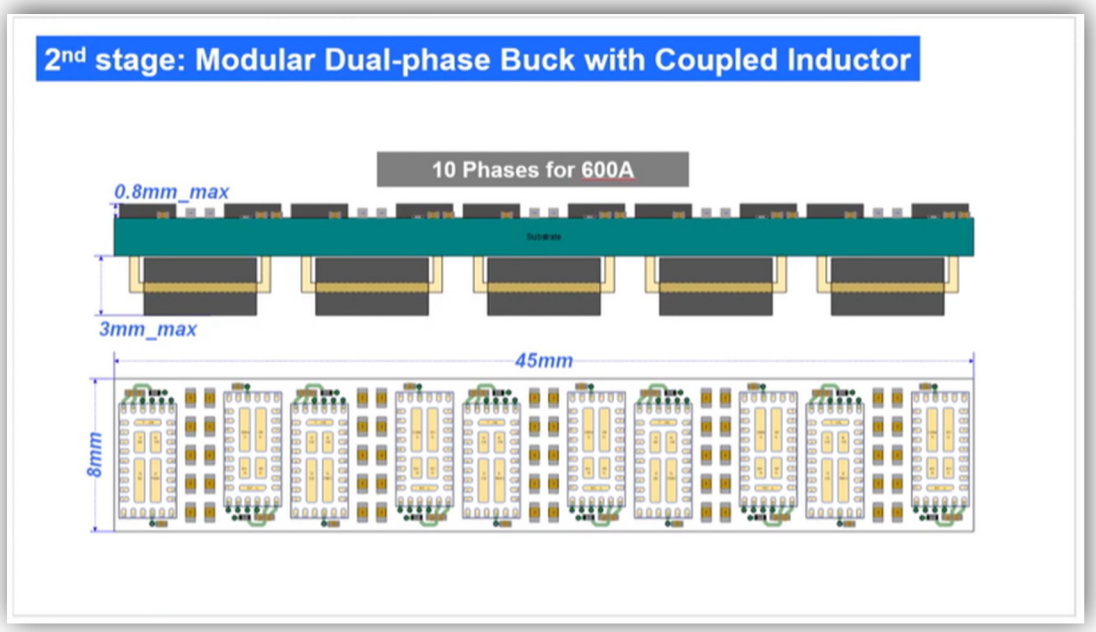
31. The Accused Products include first and second windings having a leakage inductance and being coupled to the magnetic core wherein magnetizing inductance is at least three times greater than the leakage inductance of either winding. For example, each coupled inductor in the Accused Products includes first and second inductive windings having leakage inductances that, on information and belief, are each less than the magnetizing inductance which results from the first and second windings being coupled to the magnetic core. The DC-to-DC power converter Monolithic demonstrated at APEC 2019 advertised a second stage peak efficiency of about 97%, and on information and belief, this peak efficiency would not be possible if the magnetizing inductance was not at least three times greater than the leakage inductance of either winding.



(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

32. The Accused Products include the first winding being wound about the core in a first orientation and the second winding being wound about the core in the first orientation. For

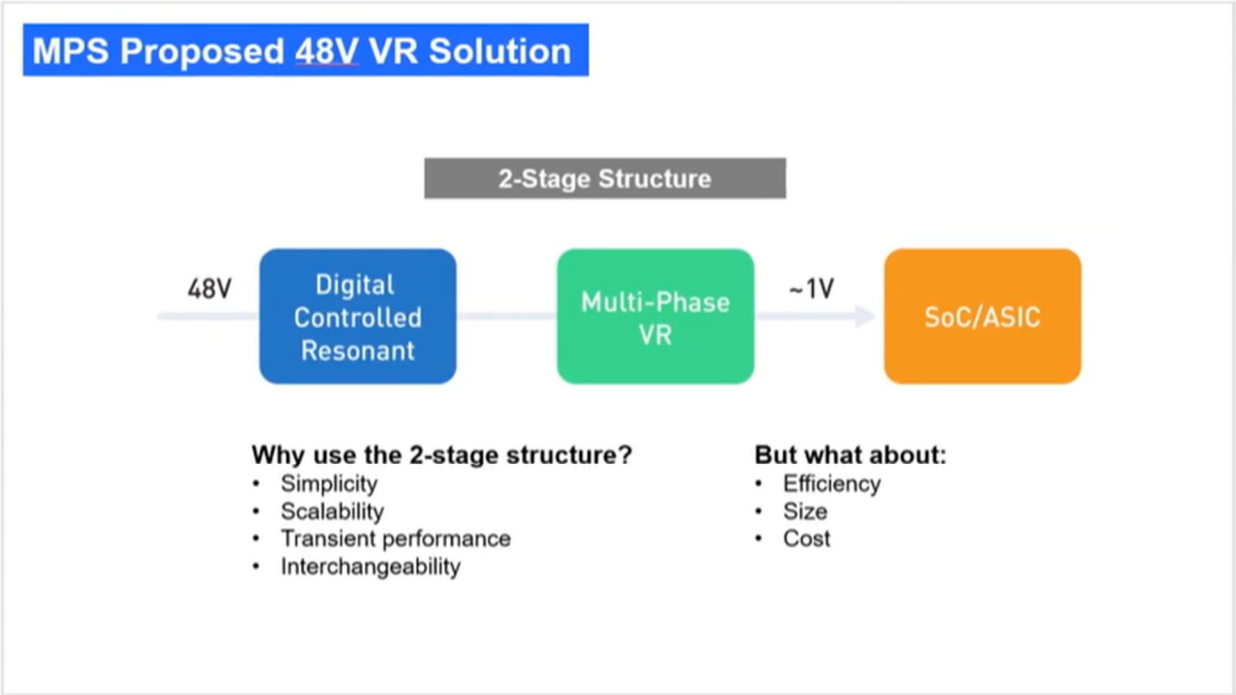
example, the Accused Products include coupled inductors and each coupled inductor includes first and second inductive windings in a first orientation to increase coupling between the windings.



(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

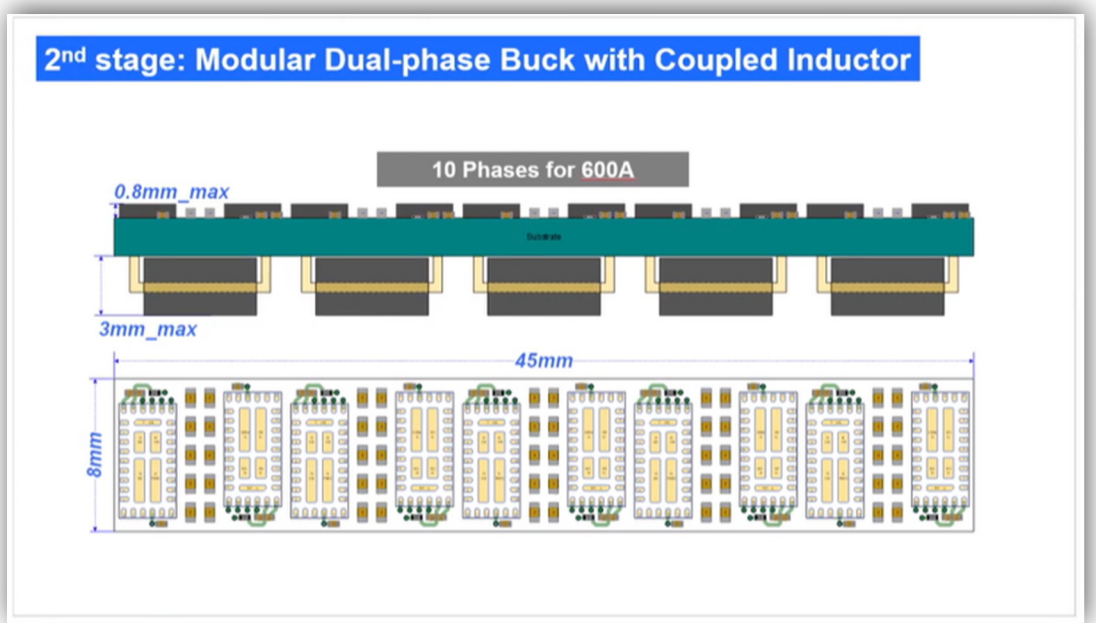
33. Claim 17 of the ’986 patent recites: A method for reducing ripple in a DC-to-DC converter of the type producing an output voltage from an input voltage, comprising the steps of: orienting, in like direction, first and second windings about a common core to increase coupling between the windings; and alternatively activating each winding about 180 degrees out of phase with the second winding, to regulate magnitude of the output voltage.

34. The Accused Products perform a method for reducing ripple in a DC-to-DC converter of the type producing an output voltage from an input voltage. For example, at APEC 2019 Monolithic demonstrated a power converter that produces a 1 volt DC output voltage from a 48 volt DC input voltage. Further, Monolithic advertised the transient performance of the 2-stage structure. On information and belief, by using the methods of the ’986 patent, the Accused Products achieve transient response optimization without incurring additional current ripple.



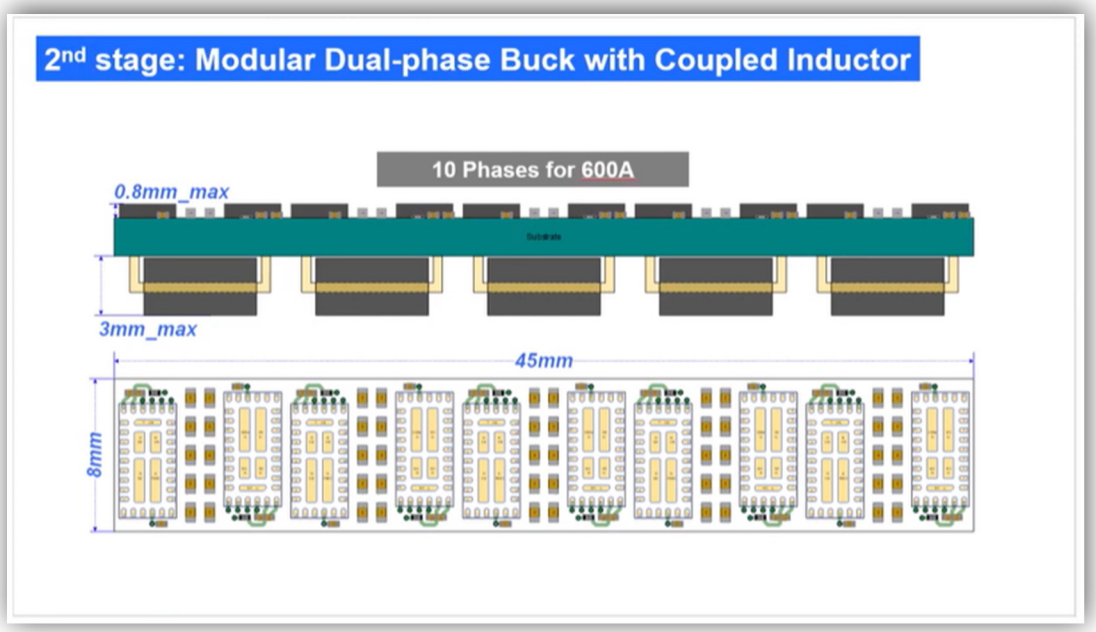
(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

35. The Accused Products preform the method of claim 17 by orienting, in like direction, first and second windings about a common core to increase coupling between the windings. For example, the Accused Products include coupled inductors and each coupled inductor includes first and second inductive windings oriented in a like direction about a common magnetic core to increase coupling between the windings.



(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

36. The Accused Products preform the method of claim 17 by alternatively activating each winding about 180 degrees out of phase with the second winding, to regulate magnitude of the output voltage. For example, the Accused Products include a pair of control circuits for each coupled inductor. On information and belief, the first control circuit is connected to the first winding and the second control circuit is connected to the second winding. The layout demonstrated at APEC 2019 shows the first control circuit physically oriented 180 degrees with respect to the second control circuit. On information and belief, the physical orientation of the control circuits is indicative of the first voltage across the first winding being switched at about 180 degrees out of phase with the second voltage across the second winding. On information and belief, the Accused Products switch the first voltage and second voltage to regulate the magnitude of the output voltage.



(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

(https://www.youtube.com/watch?v=WIC2SDWSins).

37. This description is based on publicly available information and a reasonable investigation of the structure and operation of the Accused Products. Volterra reserves the right to modify this description, including, for example, on the basis of information about the Accused Products that it obtains during discovery.

38. Monolithic's infringement has damaged and continues to damage Volterra in an amount yet to be determined, of at least a reasonable royalty and/or the lost profits that Volterra would have made but for Monolithic's acts of infringement.

39. This is an exceptional case. Volterra is entitled to attorneys' fees and costs under 35 U.S.C. § 285 as a result of the infringement of the '986 patent by Monolithic.

40. Volterra has no adequate remedy at law for Monolithic's infringement. As a direct and proximate result of Monolithic's acts of infringement, Volterra has suffered and continues to suffer damages and irreparable harm. Unless Monolithic's acts of infringement are enjoined by the Court, Volterra will continue to be damaged and irreparably harmed.

COUNT II: INFRINGEMENT OF U.S. PATENT NO. 7,525,408

41. Volterra incorporates by reference and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

42. On information and belief, Monolithic has directly infringed, continues to infringe, and/or has induced or contributed to the infringement of at least claim 14 of the '408 patent by making, using, selling, offering for sale, and/or importing into the United States, without authority or license, the Accused Products in violation of 35 U.S.C. § 271(a). For example, Monolithic directly infringed the '408 patent when it demonstrated its 48V-1V Power Solution for CPU, SoC or ASIC Controller at APEC 2019.

43. By at least December 9, 2019, Volterra disclosed, at least by filing this Complaint, the existence of the '408 patent and identified at least some of Monolithic' and others' activities

that infringe the '408 patent. Thus, based on this disclosure, Monolithic had knowledge of the '408 patent and that its activities infringe the '408 patent since at least December 9, 2019. Based on Volterra's disclosures, Monolithic has also known or should have known since at least December 9, 2019 that its customers, distributors, suppliers, and other purchasers of the Accused Products are infringing the '408 patent at least because Monolithic has known that it is infringing the '408 patent.

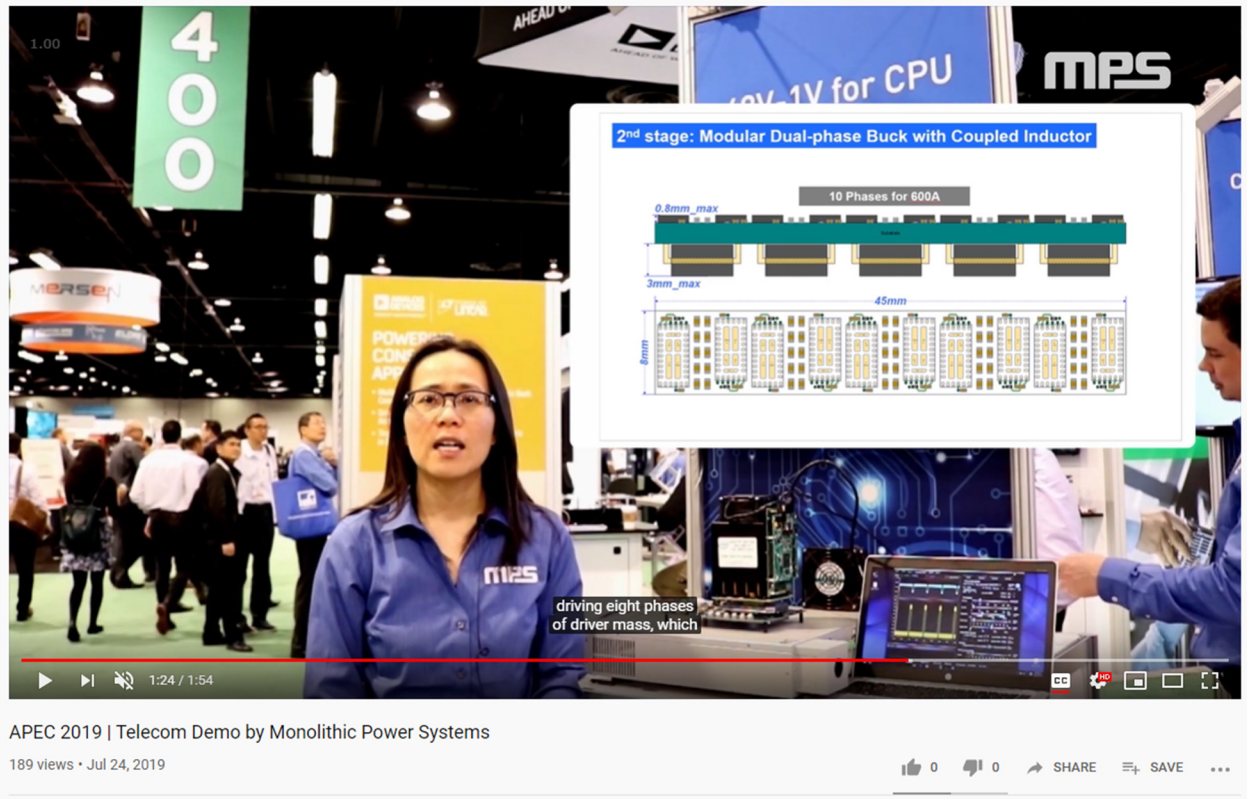
44. On information and belief, Monolithic also actively, knowingly, and intentionally induces infringement of one or more claims of the '408 patent under 35 U.S.C. § 271(b) by actively encouraging others to import into the United States, and/or make, use, sell, and/or offer to sell in the United States, the Accused Products or products containing the infringing components of the Accused Products. For example, Monolithic actively promotes the sale, use, and importation of the Accused Products in marketing materials and videos made available on its YouTube channel (e.g., www.youtube.com/channel/UCqOx8jWRKEq4TpfcjCz0Isw) as well as at trade shows (e.g., APEC 2019) and through its sales and distribution channels that encourage infringing uses, sales, offers to sell, and importation of the Accused Products. As another example, on information and belief, Monolithic representatives travel to customer sites for sales and support activity that includes working with customers and suppliers to facilitate these customers' infringing testing, marketing, importation, and sales activity. On information and belief, Monolithic supplies its customers, distributors, and suppliers with the Accused Products so that they may be used, sold, offered for sale, and/or imported into the United States by those customers and suppliers.

45. On information and belief, Monolithic further contributes to the infringement of one or more claims of the '408 patent under 35 U.S.C. § 271(c) by offering to sell, selling, and/or importing into the United States a component of the Accused Products, or a material or apparatus

for use in practicing a process claimed in the '408 patent, that constitutes a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement of the '408 patent, and is not a staple article or commodity of commerce suitable for substantial noninfringing use. For example, on information and belief, Monolithic' contributes to its customers' infringement of the '408 patent when it manufactures, designs, or assists in the design of a material part of the Accused Products.

46. The Accused Products meet all the limitations of at least claim 14 of the '408 patent. Specifically, claim 14 of the '408 patent recites: An N-phase coupled inductor for magnetically coupling N phases of a power converter, comprising: a magnetic core including a first and a second magnetic element and N connecting magnetic elements, N being an integer greater than one, the first and second magnetic elements being disposed parallel to each other and separated by a linear separation distance, each connecting magnetic element being coupled to the first and second magnetic elements, the first and second magnetic elements and the N connecting elements cooperatively forming N−1 passageways; and N windings, each of the N windings for electrically connecting to a respective phase of the power converter, each winding being wound about a respective connecting element and at least partially through at least one passageway, and each passageway having two of the N windings wound at least partially therethrough.

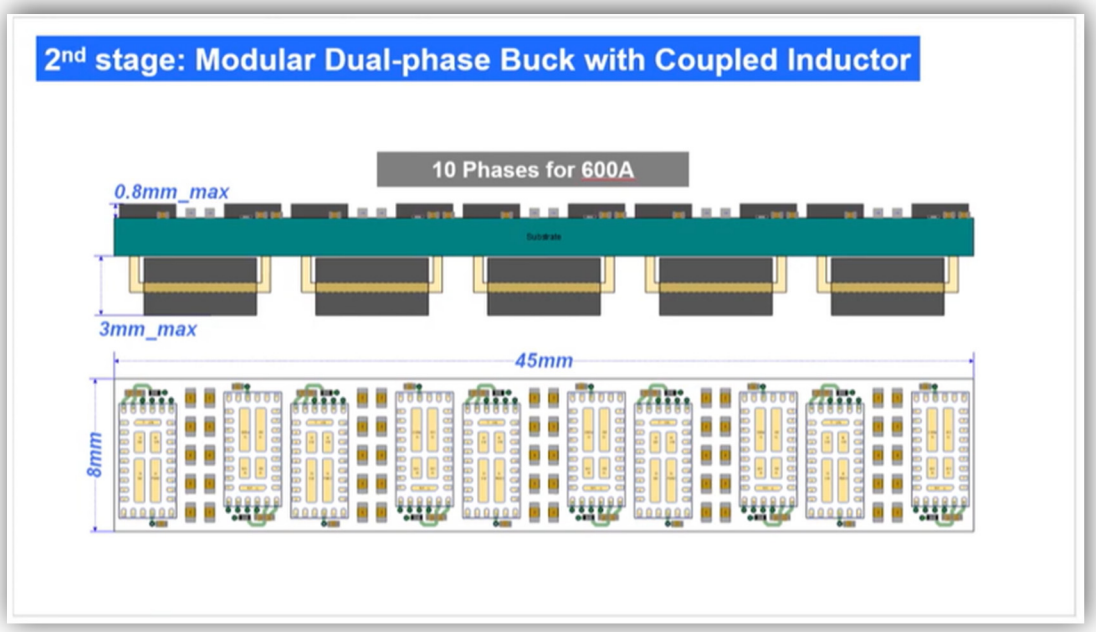
47. The Accused Products include an N-phase coupled inductor for magnetically coupling N phases of a power converter. For example, the Accused Products include multiple 2-phase coupled inductors for magnetically coupling 2 phases of a DC-to-DC power converter. Monolithic's demonstration at APEC 2019 discussed an 8-phase power converter and included an image of a 10-phase power converter. The image of the 10-phase power converter showed five 2-phase coupled inductors.



(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

48. The Accused Products include a magnetic core including a first and a second magnetic element and N connecting magnetic elements, N being an integer greater than one, the first and second magnetic elements being disposed parallel to each other and separated by a linear separation distance, each connecting magnetic element being coupled to the first and second magnetic elements, the first and second magnetic elements and the N connecting elements cooperatively forming N−1 passageways. For example, the Accused Products include 2-phase coupled inductors, and each coupled inductor includes a magnetic core. On information and belief, each magnetic core includes a first and second magnetic element and two connecting magnetic elements, and the first and second magnetic elements are disposed parallel to each other and separated by a linear separation distance. On information and belief, each connecting magnetic

element is coupled to the first and second magnetic elements, and a passageway is cooperatively formed by the first and second magnetic elements and the two connecting magnetic elements.



(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

49. The Accused Products include N windings, each of the N windings for electrically connecting to a respective phase of the power converter. For example, the Accused Products include 2-phase coupled inductors, and each 2-phase coupled inductor includes two inductive windings and two control circuits. On information and belief, the first control circuit electrically connects a first phase of the power converter to the first winding and the second control circuit electrically connects a second phase of the power converter to the second winding.

50. The Accused Products have each winding being wound about a respective connecting element and at least partially through at least one passageway. For example, on information and belief, each 2-phase coupled inductor in the Accused Products includes two inductive windings, two connecting magnetic elements, and one passageway. On information and belief, the first inductive winding is wound about the first connecting magnetic element and at

least partially through the passageway, and the second inductive winding is wound about the second connecting magnetic element and at least partially through the passageway.

51. The Accused Products have each passageway having two of the N windings wound at least partially therethrough. For example, on information and belief, each 2-phase coupled inductor in the Accused Products includes a passageway having the first and second windings wound at least partially therethrough.

52. This description is based on publicly available information and a reasonable investigation of the structure and operation of the Accused Products. Volterra reserves the right to modify this description, including, for example, on the basis of information about the Accused Products that it obtains during discovery.

53. Monolithic's infringement has damaged and continues to damage Volterra in an amount yet to be determined, of at least a reasonable royalty and/or the lost profits that Volterra would have made but for Monolithic's acts of infringement

54. This is an exceptional case. Volterra is entitled to attorneys' fees and costs under 35 U.S.C. § 285 as a result of the infringement of the '408 patent by Monolithic.

55. Volterra has no adequate remedy at law for Monolithic's infringement. As a direct and proximate result of Monolithic's acts of infringement, Volterra has suffered and continues to suffer damages and irreparable harm. Unless Monolithic's acts of infringement are enjoined by the Court, Volterra will continue to be damaged and irreparably harmed.

COUNT III: INFRINGEMENT OF U.S. PATENT NO. 7,772,955

56. Volterra incorporates by reference and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

57. On information and belief, Monolithic has directly infringed, continues to infringe, and/or has induced or contributed to the infringement of at least claim 23 of the '955 patent by

making, using, selling, offering for sale, and/or importing into the United States, without authority or license, the Accused Products in violation of 35 U.S.C. § 271(a). For example, Monolithic directly infringed the '955 patent when it demonstrated its 48V-1V Power Solution for CPU, SoC or ASIC Controller at APEC 2019.

58. By at least December 9, 2019, Volterra disclosed, at least by filing this Complaint, the existence of the '955 patent and identified at least some of Monolithic' and others' activities that infringe the '955 patent. Thus, based on this disclosure, Monolithic had knowledge of the '955 patent and that its activities infringe the '955 patent since at least December 9, 2019. Based on Volterra's disclosures, Monolithic has also known or should have known since at least December 9, 2019 that its customers, distributors, suppliers, and other purchasers of the Accused Products are infringing the '955 patent at least because Monolithic has known that it is infringing the '955 patent.

59. On information and belief, Monolithic also actively, knowingly, and intentionally induces infringement of one or more claims of the '955 patent under 35 U.S.C. § 271(b) by actively encouraging others to import into the United States, and/or make, use, sell, and/or offer to sell in the United States, Accused Products or products containing the infringing semiconductor components of the Accused Products. For example, Monolithic actively promotes the sale, use, and importation of the Accused Products in marketing materials and videos made available on its YouTube channel (e.g., www.youtube.com/channel/UCqOx8jWRKEq4TpfcjCz0Isw) as well as at trade shows (e.g., APEC 2019) and through its sales and distribution channels that encourage infringing uses, sales, offers to sell, and importation of the Accused Products. As another example, on information and belief, Monolithic representatives travel to customer sites for sales and support activity that includes working with customers and suppliers to facilitate these customers'

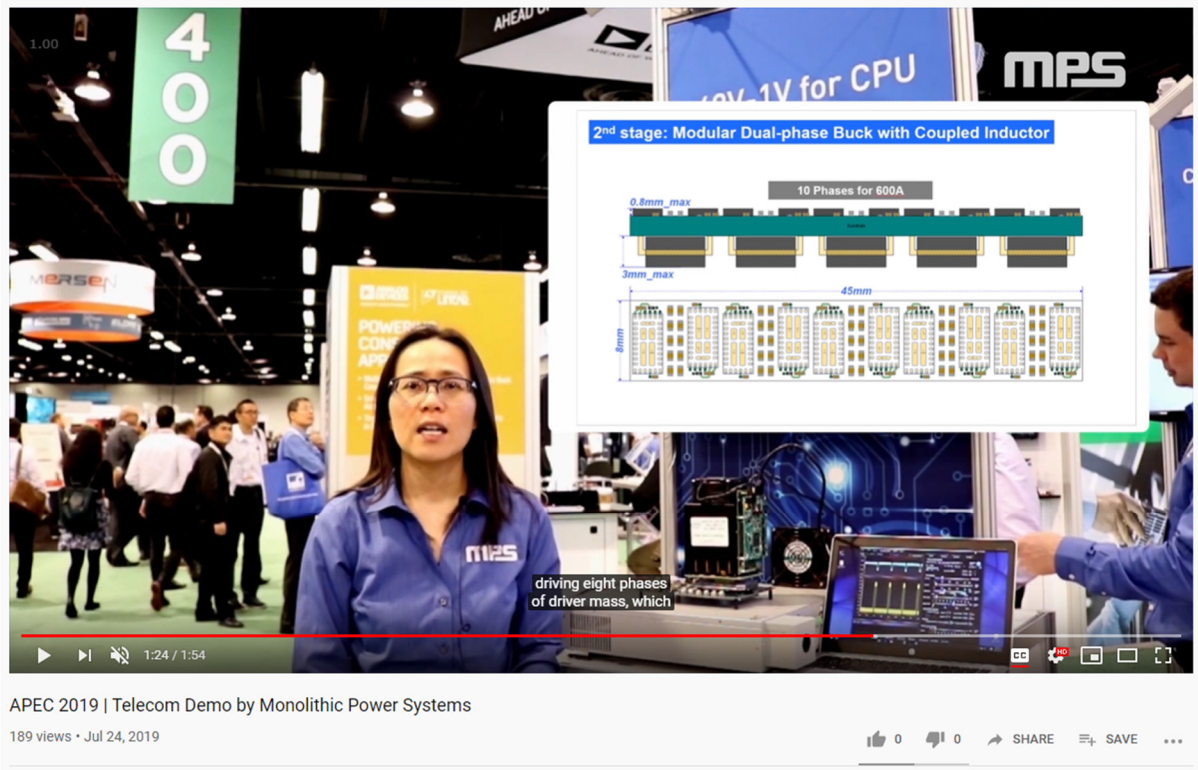
infringing testing, marketing, importation, and sales activity. On information and belief, Monolithic supplies its customers, distributors, and suppliers with Accused Products so that they may be used, sold, offered for sale, and/or imported into the United States by those customers and suppliers.

60. On information and belief, Monolithic further contributes to the infringement of one or more claims of the ’955 patent under 35 U.S.C. § 271(c) by offering to sell, selling, and/or importing into the United States a component of the Accused Products, or a material or apparatus for use in practicing a process claimed in the ’955 patent, that constitutes a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement of the ’955 patent, and is not a staple article or commodity of commerce suitable for substantial noninfringing use. For example, on information and belief, Monolithic’ contributes to its customers’ infringement of the ’955 patent when it manufactures, designs, or assists in the design of a material part of the Accused Products.

61. The Accused Products meet all the limitations of at least claim 23 of the ’955 patent. Specifically, claim 23 of the ’955 patent recites: A two phase coupled inductor for magnetically coupling first and second phases of a power converter, comprising: a magnetic core forming a passageway at least partially defined by first, second, third, and fourth planar surfaces of the magnetic core, the first planar surface being opposite of the second planar surface, the third planar surface being opposite of the fourth planar surface; a first winding providing electrical interface for the first phase, the first winding wound at least partly about the magnetic core and passing through the passageway along the first planar surface and contacting the third planar surface; and a second winding providing electrical interface for the second phase, the second winding wound at least partly about the magnetic core and passing through the passageway along the first planar

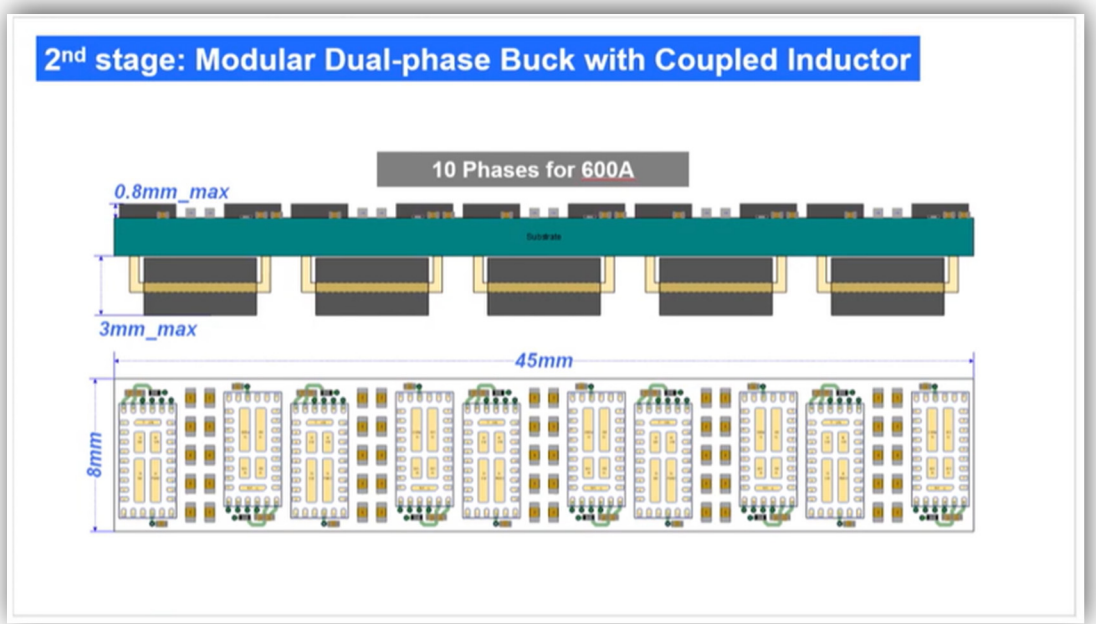
surface and contacting the fourth planar surface, the passageway having depth and height, the depth being greater than the height, the first and second windings extending through the magnetic core only via the passageway, and the first and second windings being separated by a linear separation distance throughout the passageway, the separation distance being along an axis perpendicular to an axis of the height of the passageway and perpendicular to an axis of the depth of the passageway, the separation distance being greater than the height of the passageway.

62. The Accused Products include a two phase coupled inductor for magnetically coupling first and second phases of a power converter. For example, the Accused Products include multiple two phase coupled inductors for magnetically coupling first and second phases of a DC-to-DC power converter. Monolithic's demonstration at APEC 2019 discussed an 8-phase power converter and included an image of a 10-phase power converter. The image of the 10-phase power converter showed five 2-phase coupled inductors.



(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

63. The Accused Products include a magnetic core forming a passageway at least partially defined by first, second, third, and fourth planar surfaces of the magnetic core, the first planar surface being opposite of the second planar surface, the third planar surface being opposite of the fourth planar surface. For example, the Accused Products include two phase coupled inductors, and each coupled inductor includes a magnetic core. On information and belief, each magnetic core includes a first and second magnetic element and two connecting magnetic elements. On information and belief, the first and second magnetic elements include first and second planar surfaces opposite to one another, and the two connecting magnetic elements include third and fourth planar surfaces opposite to one another. On information and belief, a passageway is formed by the first and second magnetic elements and the two connecting magnetic elements.



(https://www.youtube.com/watch?v=w7CmBr1t3Ns).

64. The Accused Products include a first winding providing electrical interface for the first phase, the first winding wound at least partly about the magnetic core and passing through the passageway along the first planar surface and contacting the third planar surface. For example,

each two phase coupled inductor in the Accused Products includes two inductive windings. On information and belief, the first inductive winding is wound about and contacts the third planar surface of connecting magnetic element of the magnetic core and passes through the passageway along the first planar surface of the first magnetic element.

65. The Accused Products include a second winding providing electrical interface for the second phase, the second winding wound at least partly about the magnetic core and passing through the passageway along the first planar surface and contacting the fourth planar surface. For example, each two phase coupled inductor in the Accused Products includes two inductive windings. On information and belief, the second inductive winding is wound about and contacts the fourth planar surface of the connecting magnetic element of the magnetic core and passes through the passageway along the first planar surface of the first magnetic element.

66. The Accused Products have the passageway having depth and height, the depth being greater than the height. For example, the Accused Products include two phase coupled inductors, and each coupled inductor includes a magnetic core. On information and belief, each magnetic core includes a passageway formed by the first and second magnetic elements and the two connecting magnetic elements. On information and belief, the depth of this passageway is greater than its height.

67. The Accused Products have the first and second windings extending through the magnetic core only via the passageway. For example, each two phase coupled inductor in the Accused Products includes two inductive windings. On information and belief, both inductive windings extend through the passageway only via the passageway.

68. The Accused Products have the first and second windings being separated by a linear separation distance throughout the passageway, the separation distance being along an axis

perpendicular to an axis of the height of the passageway and perpendicular to an axis of the depth of the passageway, the separation distance being greater than the height of the passageway. For example, each two phase coupled inductor in the Accused Products includes two inductive windings. On information and belief, the first inductive winding contacts the third planar surface of the connecting magnetic element of the magnetic core and the second inductive winding contacts the fourth planar surface of the connecting magnetic element of the magnetic core. As such, on information and belief, the first and second windings are separated by a linear separation distance throughout the passageway, and the separation distance is along an axis perpendicular to an axis of the height of the passageway and perpendicular to an axis of the depth of the passageway. On information and belief, the separation distance is greater than the height of the passageway.

69. This description is based on publicly available information and a reasonable investigation of the structure and operation of the Accused Products. Volterra reserves the right to modify this description, including, for example, on the basis of information about the Accused Products that it obtains during discovery.

70. Monolithic's infringement has damaged and continues to damage Volterra in an amount yet to be determined, of at least a reasonable royalty and/or the lost profits that Volterra would have made but for Monolithic's acts of infringement.

71. This is an exceptional case. Volterra is entitled to attorneys' fees and costs under 35 U.S.C. § 285 as a result of the infringement of the '955 patent by Monolithic.

72. Volterra has no adequate remedy at law for Monolithic's infringement. As a direct and proximate result of Monolithic's acts of infringement, Volterra has suffered and continues to suffer damages and irreparable harm. Unless Monolithic's acts of infringement are enjoined by the Court, Volterra will continue to be damaged and irreparably harmed.

PRAYER FOR RELIEF

WHEREFORE, Volterra respectfully requests:

1. That Judgment be entered that Monolithic has infringed one or more of the Asserted Patents, directly and indirectly, by way of inducement or contributory infringement, literally or under the doctrine of equivalents;

2. That, in accordance with 35 U.S.C. § 283, Monolithic and all affiliates, employees, agents, officers, directors, attorneys, successors, and assigns and all those acting on behalf of or in active concert or participation with any of them, be preliminarily and permanently enjoined from (1) infringing the Asserted Patents and (2) making, using, selling, offering for sale and/or importing the Accused Products;

3. An award of damages sufficient to compensate Volterra for Monolithic's infringement under 35 U.S.C. § 284;

4. An accounting to determine the damages to be awarded to Volterra as a result of Monolithic's infringement, including an accounting for infringing sales not presented at trial and an award of additional damages for any such infringing sales;

5. That the case be found exceptional under 35 U.S.C. § 285 and that Volterra be awarded its attorneys' fees;

6. Costs and expenses in this action;

7. An award of prejudgment and post-judgment interest; and

8. Such other and further relief as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Volterra respectfully demands a trial by jury on all issues raised by the Complaint.

Dated: December 9, 2019

/s/ Robert M. Oakes

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